

~~SECRET NOFORN~~*Where the action is***OFFICE OF COMMUNICATIONS: 1947 TO 1985**

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This brief history of the Office of Communications is intended to provide a general understanding of the office and its mission with the Central Intelligence Agency. In some ways the history is similar to that of dynamic private enterprises operating during the 40 years following World War II. It has been marked by initiative, development, growth, and then divestiture. The office has been the progenitor of key programs now located in the Directorate of Science and Technology and other offices in the Directorate of Administration. Agency activity in (b)(3)(c) communications, (b)(3)(c) satellite communications, (b)(3)(n) MPEST (the investigation and study of compromising emanations) began as OC programs. In support of the Agency's domestic communications activities—recently made a responsibility of the Office of Information Technology—the Office of Communications has adapted a commercial computer to become the standard terminal for domestic communications, engineered the largest secure telephone system in government, and is designing a modern local area network information distribution capability. The core mission, the provision of telecommunications support for overseas activities, has remained as the base challenge for the office.

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(b)(3)(n)**In the Beginning**

The Office of Strategic Services was demobilized in 1945 in the great rush to dismantle the machines of war and bring the boys home. But the vital services provided by the far-flung network of the OSS Communications Branch could not be summarily terminated and many of the OSS communicators remained abroad. When the remnants of OSS were divided between the departments of State and War, the Communications Branch was given to the Department of War, which established a Strategic Services Unit (SSU) to absorb the transferred OSS elements. The Operational Auxiliaries Branch—predecessor of today's Directorate of Administration—was formed within the SSU and became the home of the Communications Branch.

The SSU found itself with a substantial communications capability. There were facilities and communications people in Great Britain, France, Germany, Austria, the Near East, the Mediterranean region, China, India-Burma, and in the United States. In 1946 the Communications Branch had 324 people operating 63 circuits, 22 radio stations, and 31 radio links. It is noteworthy that 23 of the circuits were operated by non-communications personnel who performed communications functions as a collateral duty. This tradition of the customer-operated circuit supported by communications professionals is an old and successful one which continues today.

The former OSS Communications Branch thus immediately became an active member of the larger government community with elements

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In 1946, the Washington Message Center was straining under the load of 20,000 coded groups per day. An equivalent volume is now transmitted in under three hours over a 100 words-per-minute on-line circuit (over which encryption and transmission are accomplished simultaneously) and would be little more than a blip on modern high speed data circuits, an indication of how technology has helped the communicator over the years.

Interlude

In January 1946, President Harry S. Truman directed that the Secretaries of State, War, and Navy assign persons and facilities from their respective departments to collectively form a Central Intelligence Group (CIG) under a Director of Central Intelligence. Six months later the SSU and its Communications Branch, which had various titles but hereafter will be referred to as OC, were transferred to the CIG.

OC was faced with a number of tasks upon becoming part of an independent agency. Interestingly, the most demanding were associated with unanticipated requirements to provide service where OSS had not. The CIG was directed to assume the intelligence mission from the Federal Bureau of Investigation in Latin America. This was the beginning of the CIA Latin American morse network. FBI Director J. Edgar Hoover did not particularly welcome the unsolicited help, and CIG's takeover of the 14 FBI stations was a somewhat contentious affair. Beyond the turf struggle, the main problem CIG encountered was recruiting enough technically qualified people willing to accept assignment to South America. An analysis of the problem indicated that recruitment efforts were inefficient and the salary offered for communicators was too low, especially since the technical and security standards were so high that only a few qualified people could meet them. People were eventually found and trained and communications responsibilities at the sites were assumed by OC. The last station, Havana, began operating into a receiver site (b)(1)

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The first memorandum of understanding concerning OC communications support was signed in April 1947 by OC and the Foreign Broadcast Intercept Branch (FBIB), now the Foreign Broadcast Information Service (FBIS). The memorandum called for OC to render advice and assistance to meet FBIB communications needs and allowed FBIB to draw from OC stocks but be responsible for its own equipment except on cryptographically protected circuits. Although FBIS no longer draws from OC stocks, that modus operandi characterizes today's relationship between FBIS and OC.

The final days of CIG saw the establishment of its own domestic receiver site at (b)(1) and the move of the transmitter site to (b)(1) (b)(1) Overseas, a facility at (b)(1) was selected as an experimental base linking the United States and Europe and performing the special (b)(3)(n) services it continues to provide.

Agency Configuration: 1947 to 1951

The Central Intelligence Agency was established by law on 26 July 1947 and CIG ceased to exist when CIA was officially activated on 18 September 1947. The CIG Communications Branch moved to CIA and continued to function in the new organization as it had under OSS, the SSU, and CIG. Almost immediately OC was again pressed to expand when the Director of Central Intelligence asked the Associate Director for Special Operations to determine if a communications support station was required in (b)(1) North Africa. (That the question was put to the operations chief reflected the fact that OC had moved from the CIG support arm to the CIA operational arm. Over the years, OC has moved between support and operations and existed as an independent office, with no lasting agreement regarding where the function belongs in an intelligence agency.) OC saw the expanded tasking as an opportunity to gain the resources needed to meet a growing number of requirements which demanded a more extensive worldwide network. There were ever growing traffic loads; FBIS was increasing its operations at Headquarters and at eight field sites; the Domestic Contacts Division required secure communications in 15 US cities; and the new CIA Office of Policy Coordination (OPC) was asking for broadcast services, communications in support of covert action, and personnel training. Demand invariably exceeded supply. The office always encountered difficulty in generating the enthusiasm and gaining the resources to fully satisfy such needs. Nonetheless, it developed plans calling for people for training and (b)(1) (b)(1) planning; an operations staff in the Far East for project support; a technical staff for projects (b)(1) a training staff for European covert operations; radio bases in (b)(1) more people for (b)(1) transmitters for deception programs in Europe; and personnel to support a capitalization program.

OC, in what was to become a customarily difficult swim in the bureaucratic waters, pushed for the resources necessary to complete the buildup. In this era of clandestine support, OC leaders looked upon staff communications and support to non-clandestine customers as a drain of resources away from the

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primary mission. Thus there were suggestions that (b)(1) established in CIG days, be turned over (b)(1) to save positions if additional resources were not forthcoming.*

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There were early turf disputes within the Agency as well. The DCI was forced to intervene between the Directors of Special Operations and Policy Coordination to prevent duplication of communication structures and efforts. Because OPC felt that it was not receiving adequate support from OC for its covert action programs or in the training of its personnel to perform communications tasks, it had started to build an independent communication capability. The DCI directed that the OPC and OC efforts be combined and that OC do a better job of serving all customers.

OC buckled down and, following its "can-do" tradition, compiled an impressive record of achievements over the next few years. A training site was purchased in Northern Virginia, (b)(3)(c) and OC began to meet its training obligations to OPC. (The training complex was later to serve as the home for the domestic receiver and transmitter stations.) The first OC radio operator class enrolled in June 1951. A healthy budget in 1951 allowed for continued work on base stations even though plans for an (b)(1) West Coast or Alaskan base were canceled. The record of base station accomplishment:

- 1948 — The (b)(1) base was completed.
- 1949 — (b)(1) was named as a base.
- 1950 — (b)(1) was established as a sub-base.
- 1950 — (b)(1) was established as a sub-base.
- 1950 — (b)(1) as the Middle Eastern base (because (b)(1) was judged too politically unstable). The Agency also took on a military project (b)(1) which became the foundation (b)(3)(c) (b)(3)(n)
- 1950 — A (b)(1) base was established at the (b)(1) site, a location now used as a repair and logistics facility. The receiver site was moved to (b)(1) in 1951 and remained there until local political considerations forced a move (b)(1) (b)(1) in 1976.

* This ploy was a mistake OC repeated in later years when a hiatus of CIA activity in Africa was accompanied by a withdrawal of OC communicators. Faced with the loss of CIA-operated radio communications, and with no reliable commercial or military communications to fall back on,

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1950 — A mobile sleeper base—a facility with installed operational equipment which is activated only during contingency circumstances—was installed in (b)(1) and activated in 1951 while permanent structures were being built. This was one of several times that OC base operations were conducted in mobile vans.

1951 — (b)(1) Base complex was activated at (b)(1) request for cooperative communications support in the Far East.

1951 — (b)(1) was activated as a small, special purpose base.

The sub-bases of the early 1950s are the mini-relays of today. Then as now it was recognized that a network structured around a single major base is subject to the perturbations of nature, politics, and other forces, much more so than a network structured around several smaller, geographically dispersed sites. Over the years, larger facilities in (b)(1) and (b)(1) had to be closed before operations were placed in jeopardy by local political events. Early sleeper type minor relays were established in (b)(1). Later (b)(1) were used to relay morse code messages from other South American stations when direct contact with Headquarters was difficult due to low power and poor north/south radio paths. Many other stations were used for mini-relay functions over the years.

This period also saw the beginning of the Area Headquarters distributed management approach still used by OC. Ten different sites were used as Area Headquarters at various times during the 1950s. The first meeting of area management personnel, not yet called Area Chiefs, was held in 1951.

Diverse Challenge: 1947 to 1965

This was a dynamic and rewarding period for people in OC. They became accustomed to ever growing demands and expansion to meet these demands. They were led by entrepreneurs trained during World War II when moving ahead was more important than technical refinements and detailed planning. The period represents the height of OC influence as an organization. It operated as (b)(3)(n) a technical trainer a supporter of covert action projects, and as a self-sufficient service organization with integrated communications security, logistics, personnel, and training capabilities.

The office demanded a great deal from its people to meet its commitments. Time after time, awards, salary increases, and medals were turned down on the basis that excellence was expected of OC people. This management philosophy appeared to motivate the employee of this era to greater heights of performance and pride in the office. But, the lack of formal recognition has left little historical record of the exceptional and often heroic performance by hundreds of communications personnel in the China theater after World War II, during the Korean War, the various wars, coups, and revolutions in the Middle East and Latin America, during the death of colonialism in Africa, in jungle camps preparing for the Bay of Pigs, (b)(3)(n) and in the

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Berlin Tunnel. Imbedded in memory, if not properly in annals, are stories of OC officers who were among the last to leave Havana when relations were broken, of officers (b)(1)

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Never has an

OC employee been known to abandon his or her post in the face of danger unless ordered to do so by higher authority, or allow classified material to fall into the wrong hand due to inaction.

The early OC communicator was both a radio operator and a technician; hence the job title of Communications Technician, Radio (CTR). Electronic technicians handled the radio frequency equipment and the wire technicians worked on the electro-mechanical teletype and crypto machines. The cryptographic systems of the day were either one-time pad or one-time tape. The cryptographic process required that each letter of the classified message be combined with a letter of randomly produced key (used only one time—hence the name). In the one-time pad system the key was printed on paper and the process was done manually with a pencil and paper. In the one-time tape system the key took the form of perforated tape and the process was done on a teletype-like device. Those systems, when used correctly, offer absolute security and are still used for backup purposes. Specialists retained for this labor-intensive job were called Communications Technician, Cryptographic (CTC). These employees staffed the Headquarters signal center and supplemented high volume overseas posts. There were a few engineers, most of whom did not hold a degree but became certified as engineers. Even fewer employees were hired as utility specialists to install and maintain large base station generators. Because the newer cryptographic equipment being installed resisted working in overheated and inadequately powered facilities, the utility specialists soon became involved in air conditioning and no-break power systems. (In OC fashion, the troops had previously worked in shorts and undershirts in the tropics; air conditioning was considered too expensive to provide for mere people.) Several other occupational specialties were staffed with people seeking a career path out of the operator and technician ranks. Communications security officers were initially drawn mainly from the CTC ranks but included those from the technician and CTR ranks as systems became more technical. Security officers later included engineers as the communications security community began to understand TEMPEST and the seriousness of the threat from compromising emanations. Operations officers, those who (b)(3)(n) and managed overseas networks, were drawn principally from CTRs. OC also employed various other disciplines during this period. The cable secretariat employee at Headquarters was adept at message analysis and distribution. A small cadre of telephone specialists kept the unclassified system running on a shoestring for years and nurtured an infant secure voice system that grew to become the largest in government. Secretaries traveled the world to support OC activities and provided a sense of office management professionalism and consistency. Many employees with trade skills were employed at the training installation to support base station and training needs, and various support professionals have served with distinction as members of the OC family over the years. Finally, OC hired

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and used many logistics employees who later moved to the Office of Logistics but forever felt the family tie with OC.

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Important technical progress was made during this period. In the beginning, OC radio operators used morse code to send messages encrypted in the one-time pad. The late 1950s saw a gradual shift to radio teletype and one-time tape operation. The informal radio teletype network was formalized in 1959 with the introduction of standardized procedures and routings which define the CIA network of today. On-line communications were introduced in 1959 with the establishment of KW-26 links between Washington and (b)(1) and Washington and (b)(1)

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More Change: 1966 to 1985

This period was ushered in with a technical achievement that would affect how the office would do business in the future and which would permit a great increase in the flow of information without more people. The MAX I message switch was activated at (b)(1) in 1965. Similar switches were installed at Headquarters and the US Base Station in 1968. These computer message switches, some of the first to be used by civilian agencies, meant the end of the base station sweat shop environment with its ever increasing need for more paper tape machines and people to process the tape. Technology had allowed for improved service to the customer, and had improved the quality of life for the OC communicator.

This success, along with the obvious trends of the future, spelled the end of the OC entrepreneur manager with little technical education but a lot of street sense. This managerial type was in the main gradually replaced with the technocrat who was more organized and less inclined to take risks. New technology also called for new expertise and OC soon developed a group of automation specialists mainly from the ranks of the cryptographers to tend to switch software and technicians to maintain the new line printers and computers. The growth of automated systems, e.g. the DATEX data switch, and voice systems, induced the office to create a Domestic Networks Division in the mid-1960s with the concurrent need for telephone and data specialists to staff these facilities.

OC still needed to staff overseas positions. The overseas personnel and their families were faced with demanding and dangerous missions in (b)(1) (b)(1) the Middle East, (b)(1)

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to name a few. OC reacted by resisting the specialization trend and attempting to force all to take their turn serving overseas. This was the source of some tension between those who wanted to settle down in one place and specialize, and the managers who had to relieve personnel serving in ever more hostile overseas environments. OC officers carried on in the tradition of service with distinction. In Vietnam they served at places like Da Nang, Nha Trang, and Plieku and they

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In the early 1970s OC moved to provide more reliable overseas circuitry with a satellite program based upon the Defense Satellite Communications System. This program proved to be extremely successful, if expensive. OC then moved to automate the manual message distribution process in Headquarters with the Cable Dissemination System and to install more message switches. This left the office with a system that provided reliable circuits when the satellites were working, efficient message switching systems, and a semi-automated message distribution system. The field station was then looked at as the next logical step for improvement but the results were mixed. An experimental automated field terminal (AFT) project drew the attention of Agency customers who wanted to climb aboard if OC would provide some data processing support in field stations, e.g. financial data input.

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program and the Directorate of Operations commenced its CRAFT program to satisfy the need for field station customer automation assistance.

Except for advances in message switches and satellite systems the 1970s saw the office fall into a general malaise. One innovation of note was FASTCAST. Introduced late in the decade, it was a technique of systematically reallocating reserve satellite power and bandwidth from station to station thereby allowing

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messages which had queued up in switches overnight to be transmitted at over 2,000 words per minute. Volumes which previously kept two regular teletype channels running all day could now be transmitted in less than an hour and messages could be in the hands of action officers early in the work day.

More concern was focused on people problems, but there was only marginal success in convincing the newer employees that this was the case. The employee saw a system that did not allow for pay increases as skill demands grew. He/she did not understand why OC was always the office saddled with the bulk of position cuts as two presidents called for a reduction of US presence abroad, or why OC could not keep up to strength even with the reduced numbers of positions. The high frequency radio, cryptographic, and terminal equipment in use in the overseas network had been installed in the 1960s and there seemed to be no plan or budget to upgrade. Meanwhile, other elements of the Agency moved ahead with large, well funded, successful programs and [redacted]

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The 1980s saw resurgence for the office. A major capitalization program was approved and implementation began. Advances in technology allowed radio teletype circuits to be operated at rates three to six times faster than previously possible. OC was carrying an astonishing workload in comparison with previous years and doing the job well. The number of *messages* being handled in the network in the 1980s was approaching the number of *words* or *groups* processed in 1946. The number of overseas and [redacted] had increased dramatically. OC found itself again deeply involved with [redacted] communication support and with large contingency projects. Under the capitalization program the office was challenged to upgrade almost every system in use. A round of position upgrades partially satisfied the pleas for equity with other Agency employees, and an experiment with a new pay system for communications operators (known as banding) had been approved. OC finally approached its strength allocation by becoming directly involved in the recruitment and hiring process. During 1983 and 1984 OC moved aggressively to improve relations with both Agency and external customers, and it protected its budget and personnel gains.

Looking Back and Ahead

The American public has received an excellent return on investment from the Office of Communications. After initial buildups, the office has essentially maintained a flat line in the number of personnel used to accomplish a substantially more demanding mission. OC has used technology wisely to satisfy problems with little waste on blue sky systems.

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opportunities, and challenging career tracks. Nevertheless, OC personnel have continued to be where the action is and to perform their mission in exceptional fashion.

The office will continue to face new challenges in the overseas network. OC must successfully complete the capitalization program and reinforce the message that capitalization is a continuing need. New pay and award mechanisms will make OC a more attractive place to work. Network modernization must continue to provide an error-free flow of information at high data rates between the foreign field and Headquarters with alternative transmission means such as a satellite terminal combined with a high frequency radio capability to ensure continued communications during any contingency. OC personnel as technical intelligence officers, by whatever organizational name they work, with their tradition of hard work, loyalty, and can-do spirit, must be there ensuring that the intelligence is quickly communicated to the right reader and that the DCI has an effective means of command and control.

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